

## Neuro-Connections Are Made for Success:

Rewiring the Brain after Brain Injury

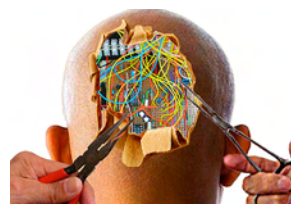
### Neuro-Connections Are Made for Success: Rewiring the Brain after Injury

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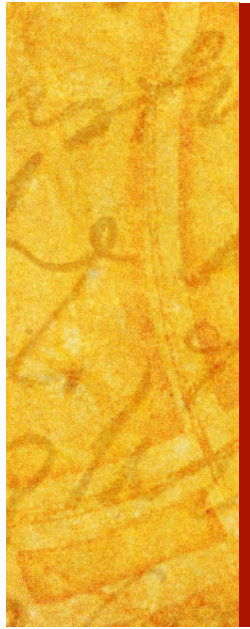
### Outcomes of This Session:

- Highlight a unique and innovative intensive program offered only in AZ to support youth to succeed in Transition after brain injury
- Increased awareness of the “realistic” types of supports needed for youth to succeed after cognitive impairment in early childhood
- Understand strategies for setting authentic goals and attaining them through comprehensive programming for youth and families
- Justify a need to rewire the brain’s connections after injury to obtain successful outcomes in transition and adulthood



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### I. Brain Injury Impacts

### II. Kyle's Story

### III. Program Supports

### IV. Success

## Brain Injury Impacts:

Findings from Research for Survivors

- **Brain injury is the leading cause of death and disability in children in the United States.**<sup>1</sup>
- **Disruptions in neurodevelopment** due to brain injury (any type) have been shown to negatively **affect future outcomes** of (1) behavior, (2) emotions, and (3) cognition in both adolescents and adults <sup>2,3,4,5</sup>
- Outcomes and quality of life are worse for more severe injuries (diffuse and focal) and those involving the frontal lobes. <sup>6</sup>
- Brain injury in young children can result in **arrested development** (*e.g., significant delays in typical neurodevelopment*) <sup>7</sup>



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#### Brain Injury Impacts: Findings from Research for Survivors

- **Problems with thinking** usually present themselves during the school years due to the task demands of education, including difficulty with:
  - **Attention and concentration**
  - All types of **memory**
  - **Speed of processing** (expressive and receptive, auditory and visual)
  - **Language, literacy and mathematics skills**
  - **Executive functions** (planning, sequencing, organizing problem solving) <sup>8,9,10</sup>
- Disruptions in early neurodevelopment also results in **behavioral issues** with tendencies toward **substance abuse, unemployment, and criminal activity** and a greater likelihood of psychosocial and psychiatric issues in adolescence and adulthood. <sup>11, 12</sup>

#### Brain Injury Impacts: Findings from Research for Families

- **Challenges with post-injury behaviors on the part of the survivor...**
  - Depression, anxiety, and self-harming
  - Aggression, hyperactivity, and mood disorders
  - Poor self-esteem and low self-confidence
  - Poor self-regulation, poor social problem solving, poor adaptive behaviors
  - Loneliness, grief and loss
  - Withdrawal, isolation, suicidal ideation and attempts <sup>13</sup>
- **...impact not only the injured youth but also the family (parents, siblings, extended family) as a whole.** <sup>14,15</sup>

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### Brain Injury Impacts: Findings from Research for Families

■ **The challenges that parents face are:**

1. **Understanding behaviors** after brain injury
2. **Limited awareness of the impacts** of brain injury now and into the future
3. **Maladaptive interactions** or having **poor parenting styles**
4. **Increased stressors**
5. **Reduced family cohesion.** <sup>16,17,18,19</sup>



### Brain Injury Impacts: Findings from Research for Families

■ **For families engaged with their youth in the Pilot Program, several first year findings are of importance. Parents present with issues as well:**

- (1) Many believe that their child/youth will “catch up” developmentally to his or her typical peers.
- (2) Many think their child/youth will eventually “make it” socially.
- (3) Some continue to believe that “parent burnout” is only temporary.
- (4) Some parents are not receptive to psychosocial therapies for themselves.
- (5) Parents who present as rigid, resistant, impatient and unrealistic were more likely to experience dysfunctional outcomes.
- (6) **Unsuccessful parenting strategies need support, focus, and intervention** in order not to hinder the strategies that youth need to be successful.<sup>13</sup>


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### Brain Injury Impacts:

The AZ Governor's Council on Spinal & Head Injuries  
Trust-funded VR Youth with Brain Injury Transition Pilot Program

- A **vocational rehabilitation (VR) program** was developed as a response to transition needs – the program assists youth with brain injuries to gain the confidence and acquire the competencies to successfully transition to adulthood and the world of work.
- **This pilot program is the only program of its kind currently operating in the United States.**
- Goal of the YBITPP is to offer youth with brain injuries (having completed freshman year in HS) an opportunity to have up to **four years of comprehensive, neuro-rehabilitation** to prepare them to be successful in employment, post-secondary education, or skills training
- *Eligibility for youth (ages 14-22) is based on economic need and the capacity to participate in the program based on individualized assessments.*



Self Assessments

### Brain Injury Impacts:

Findings from the AZ Governor's Council on Spinal & Head Injuries Trust-funded VR Pilot Program for Youth

- This **vocational rehabilitation program** is offered by four comprehensive neuro-rehabilitation providers under contract with DES/Rehabilitation Services Administration
  - **Center for Transitional Neurorehabilitation (CTN)**
  - **Rehab without Walls (RWW)**
  - **SouthWest Advanced Neurorehabilitation (SWAN)**
  - **Arizona Neurorehabilitation (AzN)**
- Includes the development of an **Individualized Plan for Employment (IEP)** created with the youth and family based on assets and strengths and interests of the client
- **Program oversight** and contact is through **Kathleen Cady**, RSA Brain Injury Consultant ([KCady@azdes.gov](mailto:KCady@azdes.gov)) and **Ann Tarpy**, ED of the Governor's Council ([ATarpy@azdes.gov](mailto:ATarpy@azdes.gov))

## II. Kyle's Story



### Kyle's Story

- His Family
- His Injuries
- His School Experience
- Challenges and Life Prior to YBITPP

## Kyle's Story

- The YBITPP Program Intake
- Actions within the YBITPP
- Things Kyle Learned About Himself
- Strategies He Learned for His Success

## III. Program Supports



*P. Klonoff (2015)*

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#### Working to Empower Youth for Success

- Dr. Pam Klonoff, Clinical Director and neuropsychologist at CTN, shared several insights about YBITPP that are important for understanding success.
- **It was evident that youth presented with significant needs.**
  - **Intensive psychotherapy** to address “arrested development” and “re-raise” youth through appropriate developmental phases
  - **Medications** to address distractability, emotional lability, anxiety, and depression
  - **Psychoeducational techniques** (logs, data-driven expectations, contracts)
  - Focused work on **social behaviors** and **communication pragmatics**
  - **Regular staffings** to reinforce commitment, plans, self-discipline, and follow-through and allow the youth to self-advocate and self-reflect
  - Situational **assessments**, work skill evaluations, feedback, and social outings
  - Collaborative **Monthly meetings** with VR Counselor & the ED of the Council

#### Working to Empower Parents for Success

- **Families have significant needs too.**
  - **Intensive psycho-educational and emotional support of families** to address grief, loss, frustration, denial, guilt, limited resources
  - **Offer coping techniques to parents** (avoid personalization, clarify identity and roles)
  - **Move from finding “cures” to embracing “compensations”**
  - **Delegate responsibilities** to the identified “tiers of support”
  - **Referral to psychotherapy** for dysfunctional patterns
  - **Utilize social workers** for community resources
  - **Offer reading materials** to help families better understand brain injury and their family’s future

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## Working to Empower Parents for Success

**“Coping” strategies and skills are offered to parents to improve outcomes.**

- Provide tools to **help family members understand neuro-developmental phases**, normal aging, separation, and individuation
- Offer **stress reduction** techniques
- **Address ‘ambiguous loss’**, grief, mourning
- Teach families how to **find meaning in suffering**
- **Embrace “realism”** over expectations
- Practice “Letting Go” and **moving toward a “new normal”**
- **Teach parents about rewiring strategies** that youth needed (logs, datebooks, assistive technology) to achieve success
- **Bolster parental supervision skills** (internet, smartphone use)
- Help youth find **healthy social outlets** (church, community, sports)

## IV. Kyle’s Success



## Q&A and NEXT STEPS

### **Kyle's Plans for His Future**

### **VR "Youth with Brain Injury Transition Pilot Program" Plans for the Future**

